

Fuels and Fire Behavior Advisory

Great Basin – Utah & Southern Nevada 4500-9000'

Valid June 9th -23rd 2021



Subject: Extreme to exceptional drought conditions are present over 90% of Utah, the Arizona Strip and the southern third of Nevada. Parts of Utah are experiencing conditions not seen since the 1930's dust bowl era with dry fuel conditions resulting in increased fire behavior potential.

Discussion: For nearly two decades, the Great Basin and Southwest has been in the grips of a long-term "megadrought" punctuated by a number of short and severe regional droughts (i.e., unusually low precipitation and high temperatures at the same time). The current drought conditions started following the winter of 2020 with limited precipitation experienced since January 2020. The following conditions are being experienced/observed:

- Ancillary reports throughout region of unusual Juniper Die-Off adding dead fuels to available fuel loading.
- Live fuel moisture values (sagebrush, pinyon-juniper, Gamble oak, mountain shrubs, and mixed conifer) peaked a month ago and are available for ignition.
- For numerous Predictive Service Areas, the Energy Release Components (ERCs) are already at the 90th-95th percentile and approaching record levels for this time of year.
- 1000-hr time lag fuels are at historical lows and seeing complete consumption, even up to 9000' feet.
- Fine fuels are limited at lower elevations, due to minimal winter/spring precipitation.

Impacts to Fire Behavior: Heavy dead and live fuels are becoming available to burn earlier than typical and are contributing to fire spread. Expect heavy woody and live fuels to be a major contributor to fire spread and fire behavior this year. A lack of robust fine fuel crop may reduce fire spread in areas where grass normally carries the fire. Observed fire behavior is similar to what might typically be seen in August.

Concerns to Firefighters and the Public:

- Anticipate sagebrush, pinyon-juniper, Gamble oak, mountain shrubs, and mixed conifer to ignite easily and exhibit advanced rates of spread (outside of model parameters), elongated flaming fronts and increasing fire brands; expect more long range spotting.
- Short and mid-range spotting in fine fuels is possible with wind gusts, fire whirls, and frequent dust devils creating spotting potential greater than ½ mile in all fuel types with a probability of ignition generally over 90% based on current weather.
- Under the right atmospheric conditions, fires in dense, heavier fuels can develop into large plume dominated fires.
- Fires exceeding initial attack unless significant allocation of aerial and ground resources are used.
- Some historic water sources may not be available for suppression purposes.

Mitigation Measures:

- Additional resources maybe required on initial attack.
- Direct attack may not be feasible in many circumstances and use of indirect attack measures may be necessary.
- Ensure you are planning well ahead of the fire.
- Choose the best ridge not the next ridge.
- Expect long-range spotting of up to a ½ mile or more with well-developed columns.
- Retardant NOT effective unless immediately followed up with firefighters and/or bucket drops.

Area of Concern: All of Utah south of Ogden, the Arizona Strip, and southeastern 1/3rd of Nevada.

